1. Solve the quadratic equation below. Then, choose the intervals that the solutions belong to, with $x_1 \leq x_2$ (if they exist).

$$10x^2 - 9x - 8 = 0$$

A. $x_1 \in [-1.19, 0.09]$ and $x_2 \in [1, 3.1]$

B. $x_1 \in [-5.83, -5.41]$ and $x_2 \in [13.6, 15.8]$

C. $x_1 \in [-19.64, -19.51]$ and $x_2 \in [18.5, 21.1]$

D. $x_1 \in [-1.75, -0.97]$ and $x_2 \in [-0.5, 1.3]$

E. There are no Real solutions.

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2. Factor the quadratic below. Then, choose the intervals that contain the constants in the form $(ax + b)(cx + d); b \leq d$.

$$24x^2 + 2x - 15$$

A. $a \in [7.29, 9.63]$, $b \in [-3, 2]$, $c \in [2.3, 3.5]$, and $d \in [3, 8]$

B. $a \in [3.77, 4.53]$, $b \in [-3, 2]$, $c \in [4.2, 7.7]$, and $d \in [3, 8]$

C. $a \in [1.92, 3.05]$, $b \in [-3, 2]$, $c \in [11.9, 14.9]$, and $d \in [3, 8]$

D. $a \in [0.51, 1.72]$, $b \in [-26, -17]$, $c \in [0.5, 1.3]$, and $d \in [17, 22]$

E. None of the above.

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3. Solve the quadratic equation below. Then, choose the intervals that the solutions x_1 and x_2 belong to, with $x_1 \leq x_2$.

$$25x^2 - 10x - 24 = 0$$

A. $x_1 \in [-1.23, -0.61]$ and $x_2 \in [1.04, 1.36]$

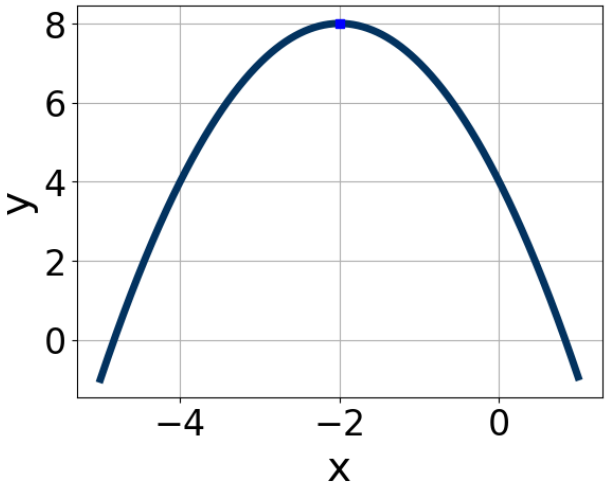
B. $x_1 \in [-0.75, 0.1]$ and $x_2 \in [2.35, 2.99]$

C. $x_1 \in [-4.35, -2.85]$ and $x_2 \in [-0, 0.32]$

D. $x_1 \in [-20.19, -19.24]$ and $x_2 \in [29.63, 30.02]$

E. $x_1 \in [-1.97, -0.81]$ and $x_2 \in [0.36, 0.92]$

4. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b, and c belong to.



A. $a \in [0.7, 1.2]$, $b \in [-5, -1]$, and $c \in [11, 14]$

B. $a \in [0.7, 1.2]$, $b \in [1, 5]$, and $c \in [11, 14]$

C. $a \in [-1.6, -0.6]$, $b \in [1, 5]$, and $c \in [2, 8]$

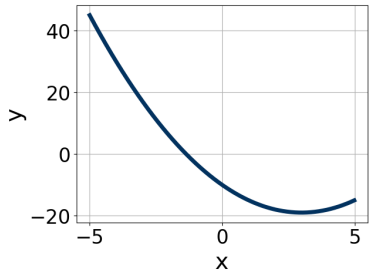
D. $a \in [-1.6, -0.6]$, $b \in [-5, -1]$, and $c \in [2, 8]$

E. $a \in [-1.6, -0.6]$, $b \in [1, 5]$, and $c \in [-12, -9]$

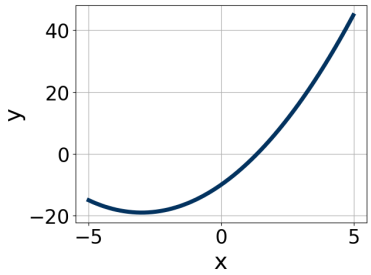
5. Graph the equation below.

$$f(x) = (x - 3)^2 - 19$$

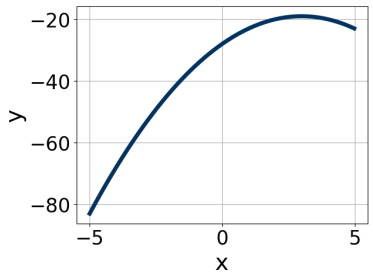
A.



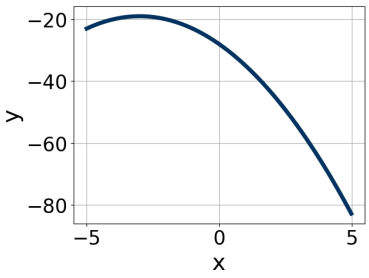
B.



C.



D.



E. None of the above.

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6. Solve the quadratic equation below. Then, choose the intervals that the solutions x_1 and x_2 belong to, with $x_1 \leq x_2$.

$$25x^2 - 10x - 24 = 0$$

A. $x_1 \in [-0.53, -0.11]$ and $x_2 \in [2.39, 2.69]$

B. $x_1 \in [-4.11, -3.68]$ and $x_2 \in [0.03, 0.52]$

C. $x_1 \in [-1.71, -1.45]$ and $x_2 \in [0.31, 0.65]$

D. $x_1 \in [-0.87, -0.62]$ and $x_2 \in [1.01, 1.56]$

E. $x_1 \in [-20.08, -19.94]$ and $x_2 \in [29.98, 30.43]$

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7. Factor the quadratic below. Then, choose the intervals that contain the constants in the form $(ax + b)(cx + d); b \leq d$.

$$54x^2 + 15x - 25$$

A. $a \in [1.7, 3.3]$, $b \in [-9, -4]$, $c \in [17.44, 18.8]$, and $d \in [5, 7]$

B. $a \in [-0.7, 2.4]$, $b \in [-30, -22]$, $c \in [0.21, 1.23]$, and $d \in [44, 48]$

C. $a \in [23.7, 27.8]$, $b \in [-9, -4]$, $c \in [1.83, 3.14]$, and $d \in [5, 7]$

D. $a \in [8.3, 10.3]$, $b \in [-9, -4]$, $c \in [5.77, 7.09]$, and $d \in [5, 7]$

E. None of the above.

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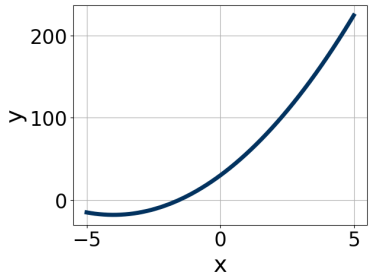
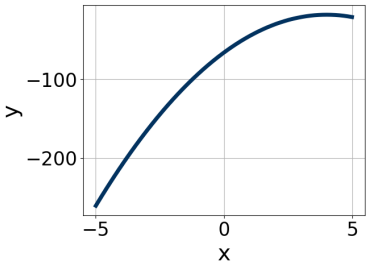
8. Graph the equation below.

$$f(x) = -(x+4)^2 - 18$$

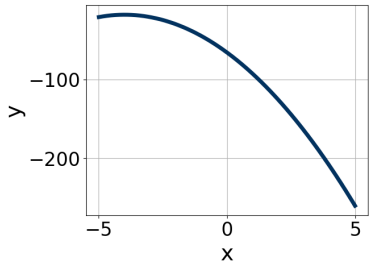
A.



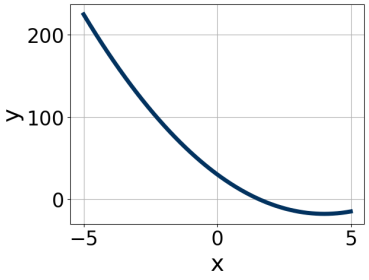
C.



B.



D.



E. None of the above.

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9. Solve the quadratic equation below. Then, choose the intervals that the solutions belong to, with $x_1 \leq x_2$ (if they exist).

$$19x^2 - 13x - 5 = 0$$

A. $x_1 \in [-6.3, -3.2]$ and $x_2 \in [17.66, 18.29]$

B. $x_1 \in [-23.7, -22.4]$ and $x_2 \in [23.22, 24.85]$

C. $x_1 \in [-1.7, -0.7]$ and $x_2 \in [0.21, 0.88]$

D. $x_1 \in [-0.5, 0.3]$ and $x_2 \in [0.8, 1.6]$

E. There are no Real solutions.

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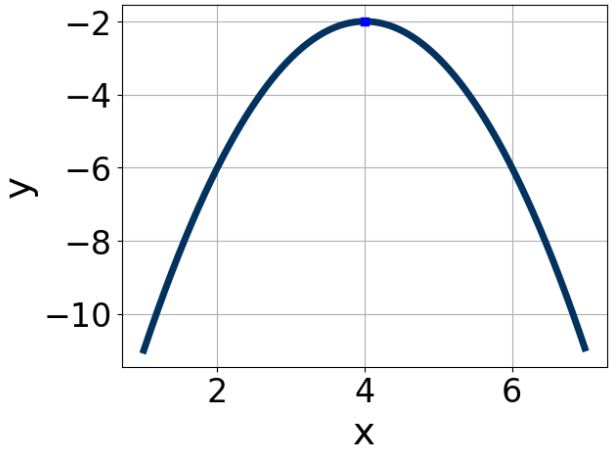
10. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b, and c belong to.



A. $a \in [-1, 0]$, $b \in [-8, -4]$, and $c \in [-18, -16]$

B. $a \in [0, 4]$, $b \in [-8, -4]$, and $c \in [14, 16]$

C. $a \in [-1, 0]$, $b \in [-8, -4]$, and $c \in [-16, -10]$

D. $a \in [0, 4]$, $b \in [6, 9]$, and $c \in [14, 16]$

E. $a \in [-1, 0]$, $b \in [6, 9]$, and $c \in [-18, -16]$
